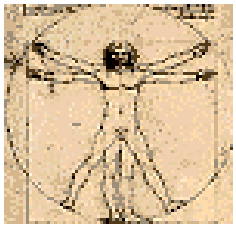


Medical Risk Management

An educational monograph brought to you by Comprehensive NeuroScience, Inc.

CNS Comprehensive NeuroScience, Inc.

Asthma in Patients with Schizophrenia: The Role of the Case Manager.

The purpose of this guide is to provide case managers and physicians with information to facilitate treatment of individuals with serious and persistent mental illness who also have co-occurring substance abuse disorder. The guide presents an overview of current research and clinical recommendations for schizophrenic patients with COPD.

Introduction: Asthma is a chronic disease that affects a person's airways (breathing tubes that carry air in and out of the lungs). Asthma is characterized by the temporary inflammation (swelling) of these airways, which results in the symptoms these patients often experience. Such symptoms include: wheezing, coughing, chest tightness, and difficulty breathing. Asthma is often triggered by a variety of different environmental factors that these patients may be allergic to or that may serve as irritants to their airways.

The number and severity of new cases of asthma seen in this country every year is dramatically increasing. It is one of the most common chronic conditions, reported to affect nearly 14.9 million Americans and is among the most common reason for Emergency Room visits. Asthma death rates have increased by more than 50% over the past year.

Although the patient with schizophrenia does not appear to be in any increased risk for developing asthma, there are other mental disorders that do co-occur more often than what would be expected by chance. The two most frequent mental disorders found in patients with asthma include anxiety disorders and bipolar disease. Although there does not appear to be an association between patients with schizophrenia and asthma, the schizophrenic patient with asthma may pose some special considerations and management issues. Non-adherence to medications used to control asthma, places the schizophrenic patient at an increased risk for developing potentially fatal asthma.

The Case Manager can serve as a critical role in the management of the Schizophrenic patient with asthma by: (1) screening for the presence, duration and severity of symptoms, (2) assuring that the patient is appropriately managed for his/her asthma, (3) determining how well the patient is adhering to his/her medications and if the patient is experiencing any side effects from the medication, (4) educating the patient about asthma, and (5) providing this information to the provider responsible for the medical management of such patients.

(1) Screening for the presence, duration and severity of symptoms:
The symptoms that the asthmatic patient experiences at any given time may vary. Symptoms may also differ in severity, being anywhere from mildly annoying to life threatening. Finally, the frequency of such symptoms can also vary from person-to-person. Some people have symptoms every few months, others have symptoms every few weeks, yet others may have symptoms every day.

For every schizophrenic patient with asthma, the case manager must first determine the presence of symptoms and then determine the severity of these symptoms.
The case manager should ask:

Have you experienced any of the following symptoms?

(a) Coughing that is often worse at night or early in the morning making it difficult to sleep?
(b) Wheezing, which is a whistling or squeaky sound when you try to breathe?
(c) The feeling that you can't catch your breath or that you can't get enough air in or out of your lungs?
(d) Faster breathing or noisy breathing?

How often do you have asthma symptoms?

(a) Twice a week or less and you are bothered by symptoms at night twice a month or less.
(b) More than twice a week but no more than once in any single day and bothered by symptoms at night more than twice a month.
(c) Asthma symptoms every day and bothered by night-time symptoms every week.
(d) You have symptoms throughout the entire day and are bothered by night-time symptoms often.

(2) Assuring that the patient is appropriately managed for his/her asthma.
The goals of asthma treatment include: (1) improving patient's quality of life, (2) providing symptom relief, (3) providing optimal therapy with minimal adverse effects, (4) preventing recurrent exacerbations and minimizing the need for emergency room visits or hospitalizations.

There are three steps that can accomplish all of these goals: (1) determining which allergens or irritants exacerbate the patient's asthma and counseling patient to avoid these when possible, (2) determining what type medications the patient is currently using to treat his/her asthma, and (3) determining if the proper tests and preventive measures were performed.

<u>Determining which allergens or irritants exacerbate the patient's asthma and counseling patient to avoid these when possible.</u>
The case manager should ask the patient:

Have any of the following made your asthma symptoms worse?

(a) Exposure to pets such as cats or dogs
(b) House dust
(c) Cockroaches
(d) Pollen
(e) Mold
(f) Cigarette smoke
(g) Air pollution
(h) Cold air or changes in weather
(i) Strong odors from painting or cooking
(j) Scented products
(k) Strong emotional expressions
(l) Stress
(m) Medications such as aspirin or beta blockers
(n) Sulfites in food (dried fruit) or beverages (wine)
(o) Special chemicals or dusts that you may be exposed to at work
(p) Infections

For every item above that is noted to trigger an asthmatic attack in the schizophrenic patient with asthma, the case manager should work with the patient to gradually reduce (or eliminate if possible) exposure to that substance. This may not always be possible with some items (such as air pollution), may be difficult to accomplish with other items (such as cigarette smoking) and very easy to accomplish with other items (such as scented products or wine).

Determining what type medications the patient is currently using to treat his/her asthma. The case manager should then determine which medications the patient is using to treat his/her asthma, and how often are they using these medications.

There are three different types of medicines that patients with asthma require to control their symptoms. These include: (1) rapid acting, immediate symptom relief medications, to be taken only when the asthmatic patient feels the onset of symptoms (wheezing, shortness of breath, chest tightness), (2) chronic long acting medications that the asthmatic patient needs to take every day regardless of whether or not they are currently having any asthmatic symptoms, and (3) medications to administer for a short term (a few days) if a severe asthmatic attack is not responding to any of the conventional medications. Most asthmatic patients require both the first and second types of medications.

Immediate Symptom Relief Medications:

Inhaled bronchodilators: These medicines work by relaxing the tightened muscles around the airways that occur when a patient has an asthma attack. These medications should be used the minute a patient first starts to experience asthmatic symptoms, because they start to work almost immediately and thus may prevent symptoms from getting any worse. It is usually recommended for severe asthmatic patients to carry these inhalers with them all the time. Although these medications work quickly, their effects only last a short time. Thus, a patient that continues to have symptoms, despite taking this medication, should seek immediate medical attention. Regular use of these medications should not be encouraged, and if it gets to the point where the asthmatic patient requires frequent daily use of these inhalers, chronic long acting medications should be considered.

Chronic Long Acting Medications:

Inhaled cortico-steroids: Persistent asthma (symptoms more than two times a week) requires the initiation of an inhaled cortico-steroid to be used daily. It should be noted, that although inhaled cortico-steroids start working almost immediately, full benefit might not be appreciated until three months later. These medications are safe and very effective when used as prescribed by a physician. Inhaled steroids go directly into the lungs and are very different from the type of steroids body builders often take to increase muscle size.

<u>Point to Case Manager 1</u>: The case manager taking care of any schizophrenic patient with asthma needs to assure if such a patient is experiencing asthmatic symptoms more than twice a week, then such a patient should also be taking an inhaled cortico-steroid.

<u>Examples of inhaled cortico-steroids:</u>

Leukotriene modifiers: These medications can be taken orally (by mouth) once a day to control the inflammatory response of asthma. These medications have very limited side effects. Although, they have not been shown to be as beneficial in controlling asthmatic symptoms when compared to the inhaled cortico-steroids, this class of medications can be used effectively in those patients reluctant to use an inhaler or in those patients who continuously use an inhaler incorrectly.

Leukotriene modifiers include:

- Cromylyn and nedocromil: These medications can be used either alone to treat **mild** persistent asthma or in conjunction with inhaled cortico-steroids to treat **moderate** persistent asthma or **severe** persistent asthma.
- Theophylline: These oral (by mouth) medications can also be taken alone for mild asthma or in combination with an inhaled cortico-steroid for **moderate** or **severe** asthma.

<u>Point to Case Manager 2</u>: The case manager taking care of any schizophrenic patient with asthma who is taking theophylline needs to assure if such a patient has had his/her theophylline blood levels checked to be sure the dose is appropriate.

Medications for an acute severe asthmatic attack not responding to conventional medications:

Oral cortico-steroids:

Rapid, initial relief of moderate or severe symptoms may be achieved by adding an oral cortico-steroid (such as prednisone). The oral cortico-steroid should be tapered over 10-14 days.

***Point to Case Manager 3*: For schizophrenic patients being started on oral cortico-steroids, the case manager needs to be aware of the fact that:**

- ***Oral cortico-steroids may exacerbate manic or psychotic symptoms***
- ***Oral cortico-steroids may induce diabetes (especially in patients already at risk of developing diabetes due to other medications they may be taking).***

Determining if the proper tests and preventive measures were performed:

(1) Spirometry: is a test that evaluates lung function, by measuring how much and how fast a patient can blow air out of their lungs after taking a deep breath. Because the presentation of asthma may be similar to other chronic lung diseases such as emphysema or bronchitis, spirometry should be done initially when a patient first presents with symptoms to assure the diagnosis of asthma is appropriate. Spirometry does not need to be repeated in the asthmatic patient, beyond that initial evaluation, **unless** the patient's asthmatic symptoms continue to deteriorate or start not to respond to conventional medications.

(2) Allergy testing: may be appropriate during the initial presentation of asthma in a patient to determine if there are specific things in the environment (that may be prevented) that are now exacerbating or causing the symptoms of asthma.

(3) Peak flow meter: this is a hand held device that can be used any time a patient has an exacerbation of his/her asthmatic symptoms to objectively quantify how bad the asthma may be at that specific period in time.

(4) Chest x-ray: is not necessary other than perhaps initially, in order to exclude the possibility of a foreign object, other lung disease or heart disease causing the symptoms of asthma.

(5) Lab work: there are no routine labs that need to be obtained in the asthmatic patient, other than a theophylline blood level if the patient is taking this medication. A complete blood count (CBC) may be necessary to rule out the possibility of an infection or allergic reaction causing or exacerbating asthmatic symptoms. A patient with an elevated white blood cell count may have an underlying infection. A patient with an elevated eosinophillic (a specific type of white blood cell) count, may have an allergic reaction to an environmental stimulus, causing/exacerbating his/her asthmatic symptoms.

(6) Preventive measures: every patient with asthma (unless contra-indicated) should also be administered the pneumonia and influenza vaccines. They also should be encouraged to stop smoking.

(3) Determining how well the patient is adhering to his/her medications and if the patient is experiencing any side effects from the medication.
Although as noted earlier, there does not appear to be any increase in asthma in patients with schizophrenia, these patients are more likely to have serious complications occur from their asthma if they are non-adherent to their medications. Thus, a critical role for the case manager is to monitor adherence.

The case manager needs to determine:

1) Does the patient know how to properly take his/her medication? This is especially important with the use of inhalers.
2) Does the patient understand the difference between the quick relief, short acting medications and the chronic long-lasting medications?
3) Is the patient taking his medications as prescribed?
4) Is the patient experiencing any side effects from the medications?

(4) Educating the patient about asthma.
Asthma patient education has been shown to improve outcomes such as: (1) preventing asthma exacerbations, (2) reducing emergency room visits, and (3) reducing hospital admissions. Educational campaigns should focus on: (1) promoting adherence, (2) improving disease monitoring, and (3) optimizing decision-making.

Patients should be educated about:

(1) Asthma as a chronic illness
(2) The inflammatory nature of asthma
(3) The role of medications (including long term versus quick relief medications)
(4) How to use inhalers and spacers
(5) How to monitor symptoms and how to use peak flow monitoring
(6) Early warning signs of an asthma attack and what to do about it.

Point to Case Manager 4: ***Asthma patients should also be instructed on the importance of seeking emergency medical attention if their symptoms do not improve or continue to worsen despite repeated use of the short acting inhaled beta agonists.***

(5) Providing this information to the provider responsible for the medical management of such patients.
The summary on the following page should be completed for every schizophrenic patient with asthma to assure that he/she has his/her asthma optimally managed.

Worksheet for the Schizophrenic Patient with Asthma

(1) What asthmatic symptoms has the patient experienced?

(2) How frequent does the patient experience these symptoms?

(3) What environmental factors exacerbate the asthmatic symptoms in this patient?

(4) Was the patient counseled on how to reduce or avoid exposure to these factors?

(5) What medications does the patient take for his/her asthma?

- A) Short acting Medications:
- B) Long Acting Medications:

(6) Has the patient had spirometry done? When was it done and what were the results?

(7) Has the patient been allergy tested? When was it done and what were the results?

(8) If the patient is on theophylline, is there a recent theophylline blood level? When was it done and what was the value?

(9) Has the patient been vaccinated for pneumonia ever and influenza this year?

(10) If the patient is an active cigarette smoker, has he/she been counseled on smoking cessation?

(11) Does the patient know how to properly use his/her medications?

(12) Has the patient been adherent with his/her medications?

(13) Has the patient experienced any side effects from the medications?

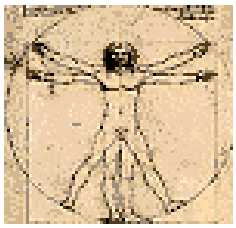
(14) Has the patient been educated about asthma as a chronic illness?

(15) Has the patient been educated about the role of medications (including long term versus quick relief medications)?

(16) Has the patient been educated about how to use inhalers and spacers?

(17) Has the patient been educated about early warning signs of an asthma attack and what to do about it?

(18) Has the patient been educated about when to seek emergency assistance?



Medical Risk Management

An educational monograph brought to you by Comprehensive NeuroScience, Inc.

CNS Comprehensive NeuroScience, Inc.

Point to Case Manager 1: The case manager taking care of any schizophrenic patient with asthma needs to assure if such a patient is experiencing asthmatic symptoms more than twice a week, then such a patient should also be taking an inhaled cortico-steroid.

Point to Case Manager 2: The case manager taking care of any schizophrenic patient with asthma who is taking theophylline needs to assure if such a patient has had his/her theophylline blood levels checked to be sure the dose is appropriate.

Point to Case Manager 3: For schizophrenic patients being started on oral cortico-steroids, the case manager needs to be aware of the fact that:

- **Oral cortico-steroids may exacerbate manic or psychotic symptoms**
- **Oral cortico-steroids may induce diabetes (especially in patients already at risk of developing diabetes due to other medications they may be taking).**

Point to Case Manager 4: Asthma patients should also be instructed on the importance of seeking emergency medical attention if their symptoms do not improve or continue to worsen despite repeated use of the short acting inhaled beta agonists.